

FIG.1

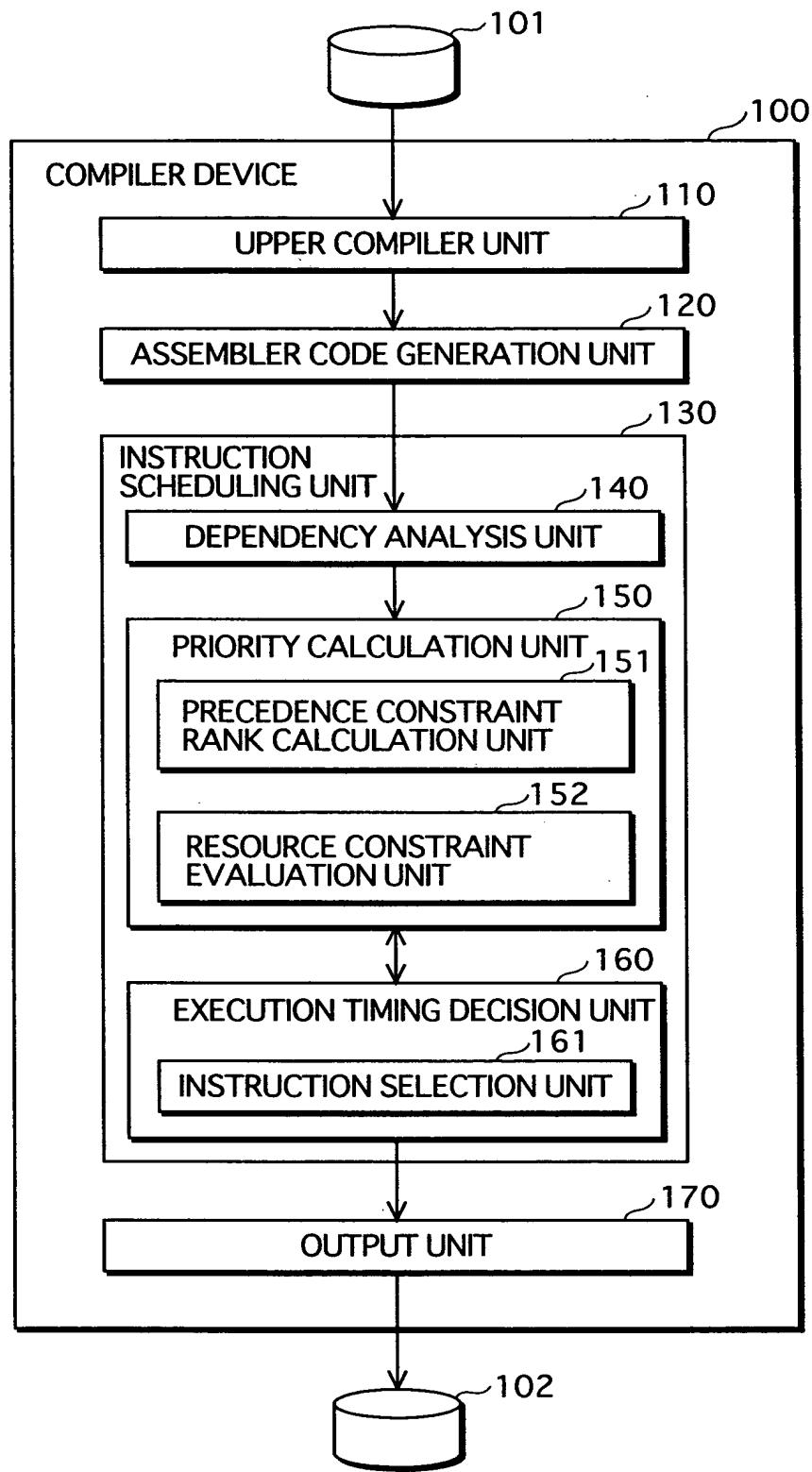


FIG.2

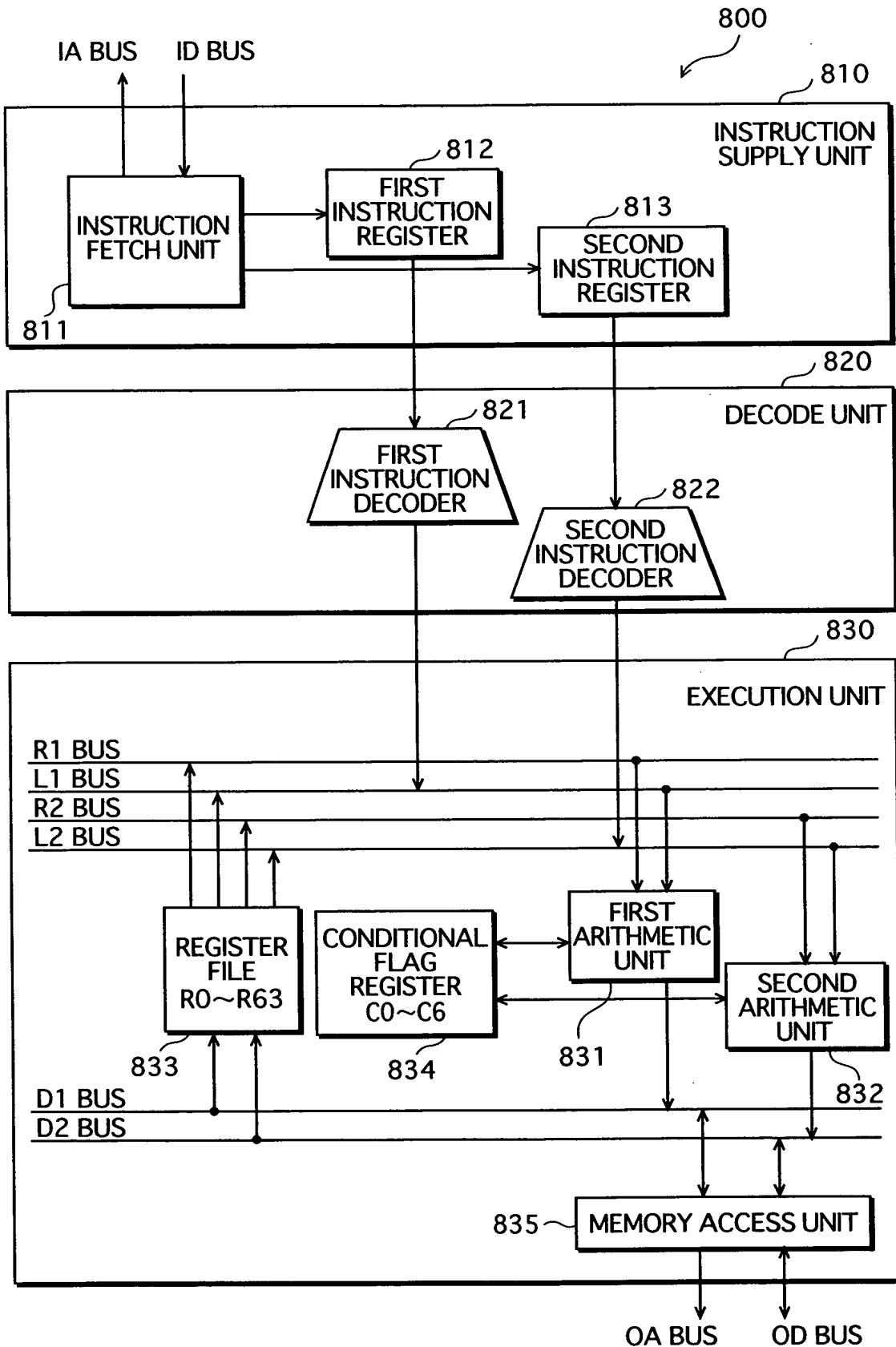


FIG.3

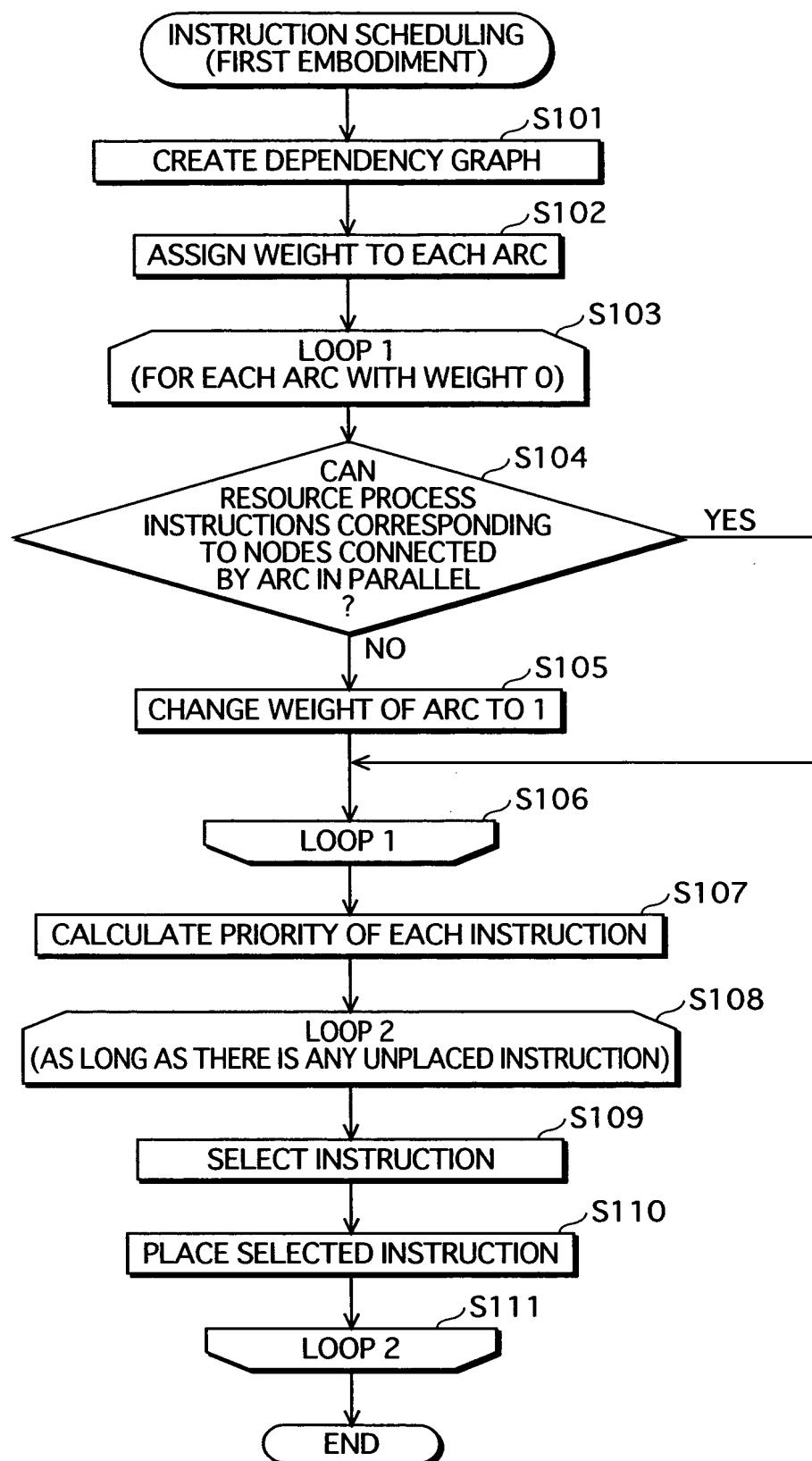


FIG.4

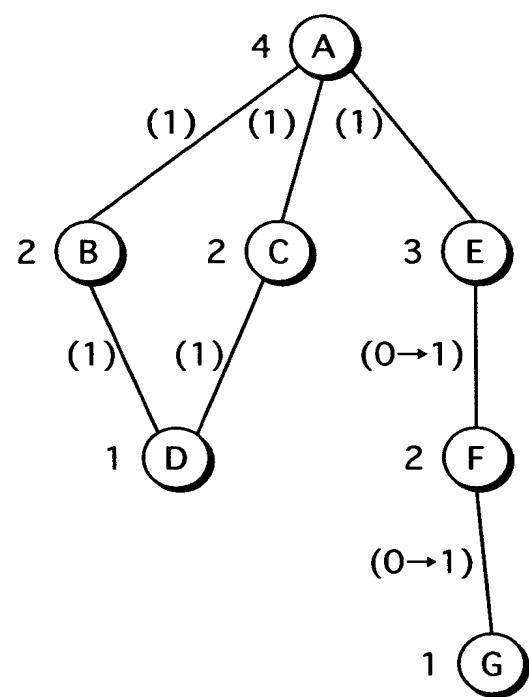
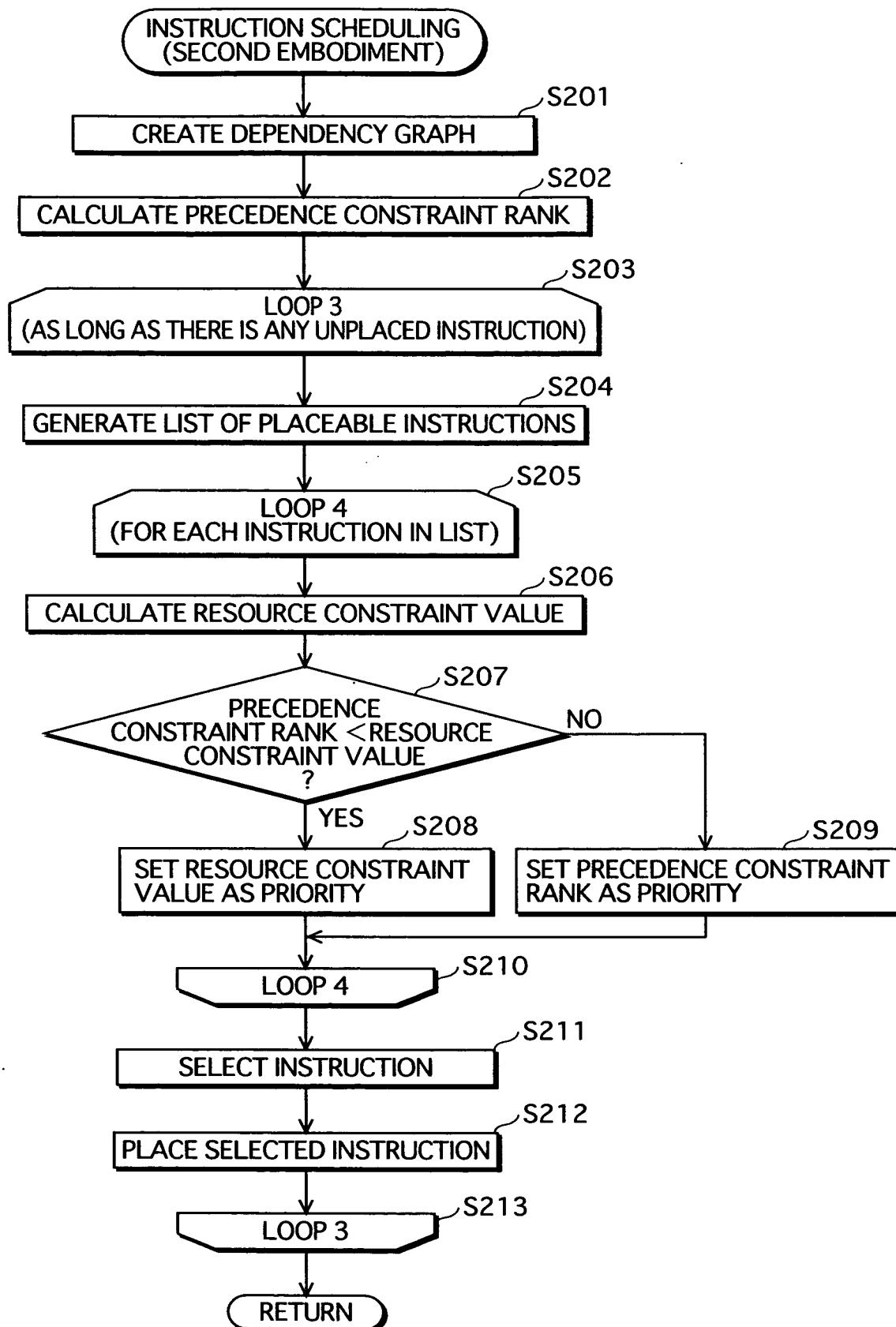


FIG. 5

CLOCK CYCLE	INSTRUCTION 1			INSTRUCTION 2		
1	ld	r0, (r10) ···	A	(FIRST DECISION)	—	—
2	st	(r11), r0 ···	E	(SECOND DECISION)	add	r3, r0, r1 ··· B (THIRD DECISION)
3	add	r4, r0, r2 ···	C	(FOURTH DECISION)	ld	r0, (r12) ··· F (FIFTH DECISION)
4	or	r5, r4, r3 ···	D	(SIXTH DECISION)	ld	r0, (r13) ··· G (SEVENTH DECISION)

FIG.6



301 302 303 310 320 FIG.7 330 340

INSTRUCTION	RESOURCE	CONSTRAINT RANK	FIRST DECISION			SECOND DECISION			THIRD DECISION			FOURTH DECISION		
			PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY	PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY	PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY	PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY
A	M	3	PLACEABLE	4	4	1	-	-	1	-	-	1	-	-
B	A	2	UNPLACED	-	-	PLACEABLE	1.5	2	PLACEABLE	1.5	2	2	-	-
C	A	2	UNPLACED	-	-	PLACEABLE	1.5	2	PLACEABLE	1.5	2	PLACEABLE	1	2
D	A	1	UNPLACED	-	-									
E	M	1	UNPLACED	-	-	PLACEABLE	3	3	2	-	-	2	-	-
F	M	1	UNPLACED	-	-	UNPLACED	-	-	PLACEABLE	2	2	PLACEABLE	2	2
G	M	1	UNPLACED	-	-									

FIG.8

INSTRUCTION	RESOURCE	PRECEDENCE CONSTRAINT	RANK	FIFTH DECISION			SIXTH DECISION			SEVENTH DECISION			PLACEMENT RESULT
				PLACEABLE	0.5	1	PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY	PLACEMENT STATE	RESOURCE CONSTRAINT VALUE	PRIORITY	
A	M	3	1	-	-	1	-	-	1	-	-	-	1
B	A	2	2	-	-	2	-	-	2	-	-	-	2
C	A	2	3	-	-	3	-	-	3	-	-	-	3
D	A	1	PLACEABLE	0.5	1	PLACEABLE	0.5	1	4	-	-	-	4
E	M	1	2	-	-	2	-	-	2	-	-	-	2
F	M	1	PLACEABLE	2	2	3	-	-	3	-	-	-	3
G	M	1	UNPLACED	-	-	PLACEABLE	1	1	PLACEABLE	1	1	1	4

301 302 303 } 350 360 370 } 380

FIG.9

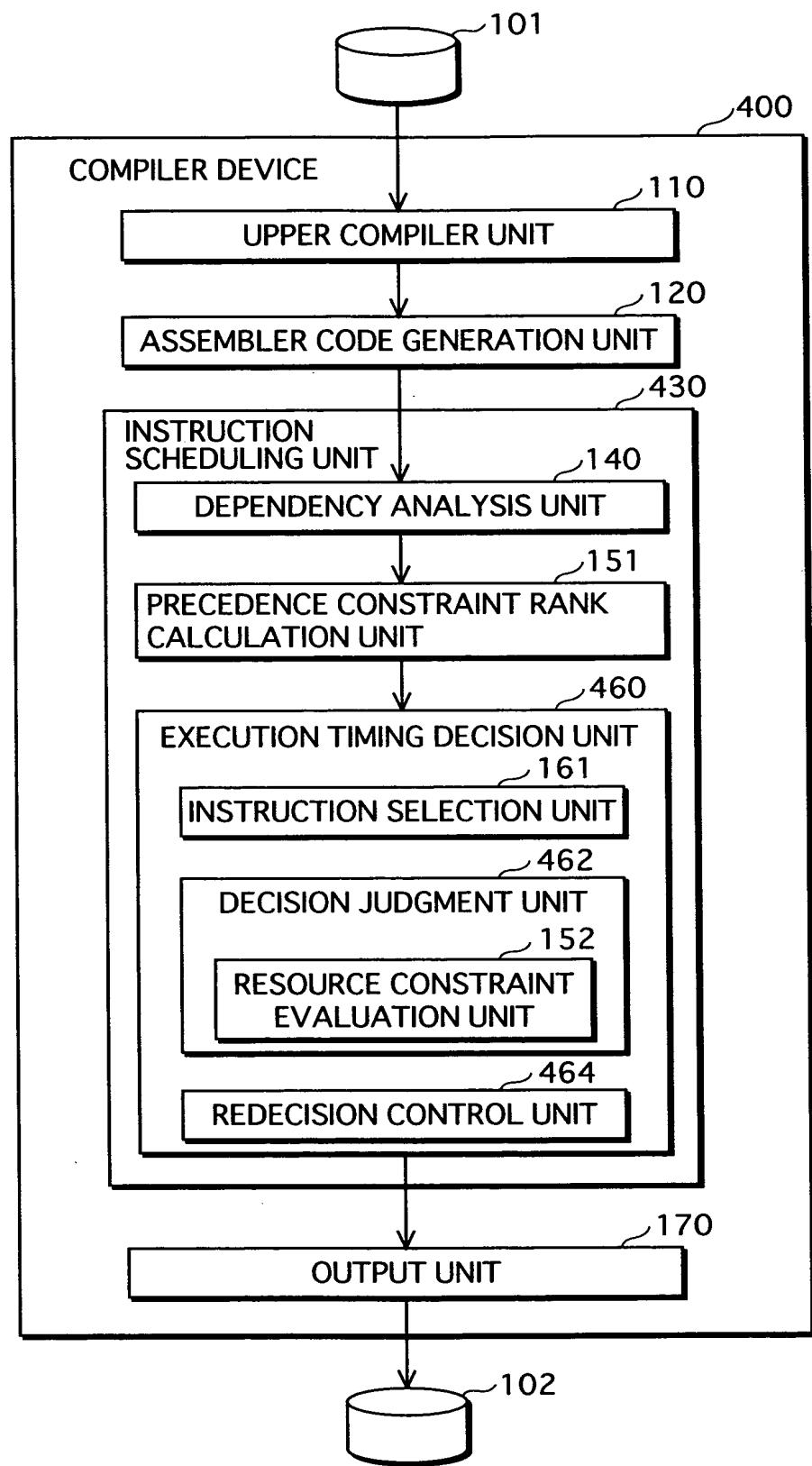
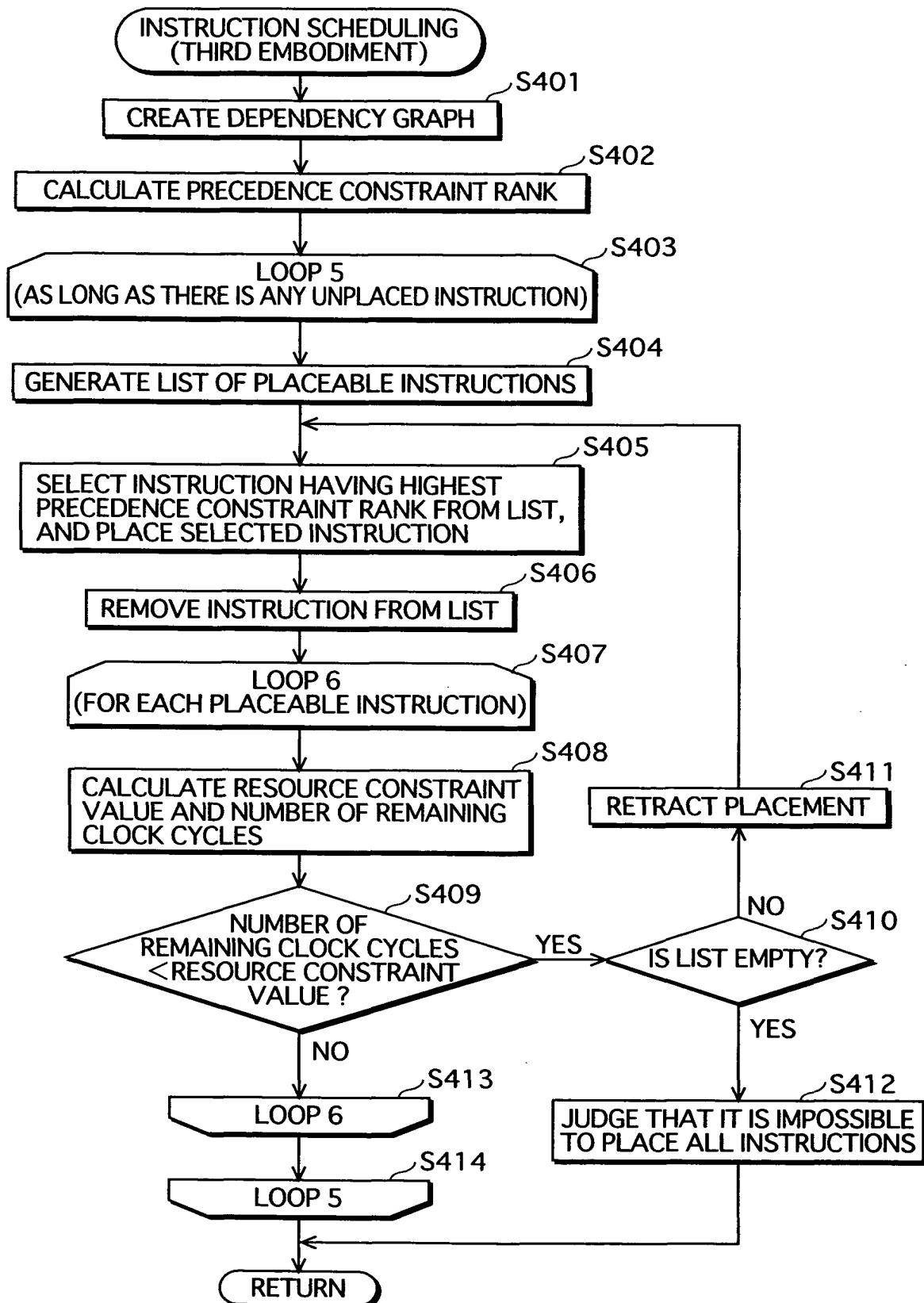


FIG.10



INSTRUCTION	RESOURCE	CONSTRAINT RANK	FIRST DECISION			SECOND DECISION			THIRD DECISION			THIRD DECISION (REDECISION)		
			NUMBER OF REMAINING CYCLES	RESOURCE CONSTRAINT VALUE	PLACEMENT STATE	NUMBER OF REMAINING CYCLES	RESOURCE CONSTRAINT VALUE	PLACEMENT STATE	NUMBER OF REMAINING CYCLES	RESOURCE CONSTRAINT VALUE	PLACEMENT STATE	NUMBER OF REMAINING CYCLES	RESOURCE CONSTRAINT VALUE	PLACEMENT STATE
A	M	3	PLACEABLE (1)	-	-	1	-	-	1	-	-	1	-	-
B	A	2	UNPLACED	3	1.5	PLACEABLE (2)	-	-	2	-	-	2	-	-
C	A	2	UNPLACED	3	1.5	PLACEABLE	3	1	PLACEABLE (2)	-	-	PLACEABLE RETRACTED	2	1
D	A	1	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	2	0.5	UNPLACED	-	-
E	M	1	UNPLACED	3	3	PLACEABLE	3	3	PLACEABLE	2	3	PLACEABLE (2)	-	-
F	M	1	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	2	2
G	M	1	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	-	-

INSTRUCTION		PREDELENCE		CONSTRAINT RANK		FIG.12		550		560		570		580		
RESOURCE		INSTRUCUTION		PREDELENCE		FIG.12		550		560		570		580		
PLACEMENT STATE		NUMBER OF REMAINING CYCLES		RESOURCE CONSTRAINT VALUE		PLACEMENT STATE		NUMBER OF REMAINING CYCLES		RESOURCE CONSTRAINT VALUE		PLACEMENT STATE		NUMBER OF REMAINING CYCLES		
A	M	3	1	-	-	1	-	-	1	-	-	-	1	-	-	1
B	A	2	2	-	-	2	-	-	2	-	-	2	-	-	-	2
C	A	2	PLACEABLE (3)	-	-	3	-	-	3	-	-	3	-	-	-	3
D	A	1	UNPLACED	1	0.5	PLACEABLE (4)	-	-	4	-	-	4	-	-	-	4
E	M	1	2	-	-	2	-	-	2	-	-	2	-	-	-	2
F	M	1	PLACEABLE	2	2	PLACEABLE	2	2	PLACEABLE (3)	-	-	3	-	-	-	3
G	M	1	UNPLACED	-	-	UNPLACED	-	-	UNPLACED	1	1	PLACEABLE (4)	-	-	-	4

FIG.13

CLOCK CYCLE	INSTRUCTION 1			INSTRUCTION 2			
	1	ld	r0, (r10) ... A (FIRST DECISION)	—	2	add r3, r0, r1 ... B (SECOND DECISION)	st (r11), r0 ... E (THIRD DECISION)
3	add r4, r0, r2 ... C (FOURTH DECISION)	ld	r0, (r12) ... F (SIXTH DECISION)	—	4	add r5, r4, r3 ... D (FIFTH DECISION)	ld r0, (r13) ... G (SEVENTH DECISION)
601	602	603					

FIG.14

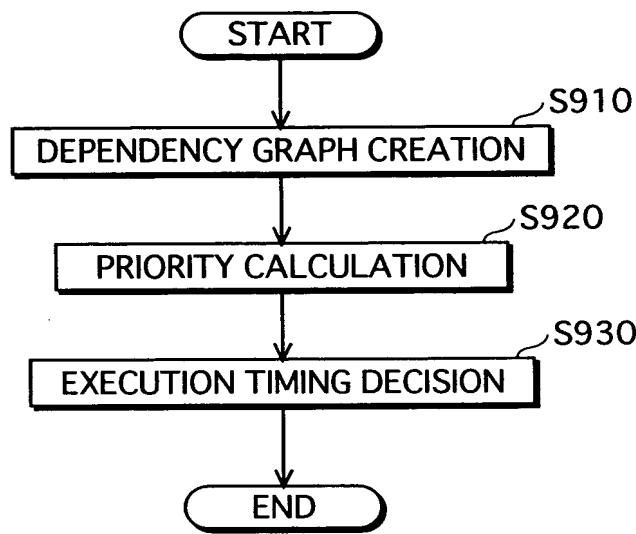


FIG.15

ld	r0, (r10)	· · ·	(A)
add	r3, r0, r1	· · ·	(B)
add	r4, r0, r2	· · ·	(C)
or	r5, r4, r3	· · ·	(D)
st	(r11), r0	· · ·	(E)
ld	r0, (r12)	· · ·	(F)
ld	r0, (r13)	· · ·	(G)

FIG.16

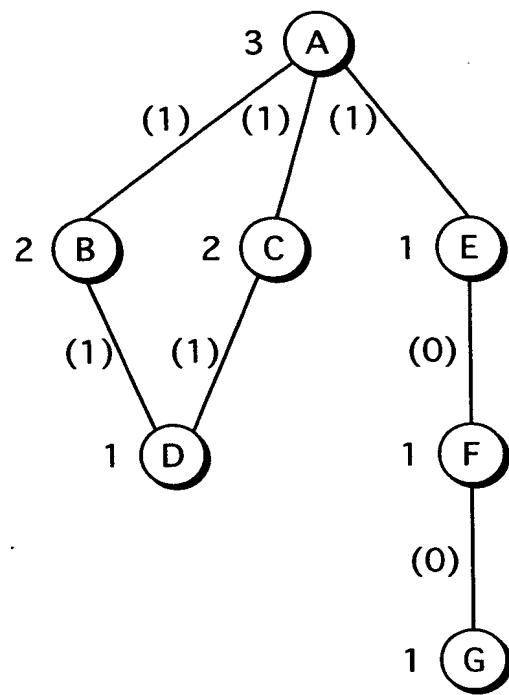


FIG.17

CLOCK CYCLE	INSTRUCTION 1		INSTRUCTION 2	
1	ld	r0, (r10) ... A	(FIRST DECISION)	-
2	add	r3, r0, r1 ... B	(SECOND DECISION)	add r4, r0 r2 ... C (THIRD DECISION)
3	or	r5, r4, r3 ... D	(FOURTH DECISION)	st (r11), r0 ... E (FIFTH DECISION)
4	ld	r0, (r12) ... F	(SIXTH DECISION)	-
5	ld	r0, (r13) ... G	(SEVENTH DECISION)	-